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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,166	11/26/2001	Paul D. Verhagen	ITWO:0021	9356

7590 12/16/2003  
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EXAMINER

LEUNG, PHILIP H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/995,166

Applicant(s)

VERHAGEN, PAUL D.

Examiner

Philip H Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8,22-35 and 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8,22-35 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 3.                      6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Applicant's election without traverse of Group I, claims 1-8, 22-35 and 43, in Paper No. 5 is acknowledged.
2. It is noted that claim 43 (original claim 42) is not listed in the 10/16/03 amendment.
3. The drawings filed 11/26/2001 are acceptable.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
5. Claims 1, 2, 4-7, 22-25, 27, 29-34 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (JP 2000-192135).

As shown in Figure 1, Watanabe discloses an induction heating system having a power source, a fluid cooling unit, an induction heating device (100C, 101C, 102C), a system controller, a flow switch (500) wherein the controller controls operation of the power source and the cooling unit to prevent heat damage to stop power to the induction heating device when the cooling flow through the flow switch is below the set desired flow rate (see the English translation sections [0010] – [0018]). The term “portable” is highly relative as any unit may be considered as “portable”.

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 8, 26, 28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (JP 2000-192135).

Watanabe discloses the claimed invention except for the explicit showing of controlling the operation of the cooling unit to increase flow when the flow rate is low. However, the same would have been obvious to an ordinary artisan in view of Watanabe as it teaches the use of a solenoid valve and a manual bulb to adjust the flow amount of coolant (see section [0009]) in order to maintain the desired coolant flow rate to prevent overheating of the induction coils. In regard to claims 8 and 35, the use of any well known communication device as an alarm device to notify the user would have been a matter of engineering design variations of alarm lamps or buzzers of Watanabe (see section [0015]).

8. Claims 1-8, 22-35 and 43 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Dion et al (US 5,101,086) (cited by applicant), in view of Watanabe (JP 2000-192135).

Dion discloses a portable induction heating system having a power source (17), a portable fluid cooling unit 23, an induction heating device (12, 15 and 18) and inherently a system controller. It fails to show the use of a flow wherein the controller controls operation of the power source and the cooling unit to prevent heat damage to stop power to the induction heating

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device when the cooling flow through the flow switch is below the set desired flow rate (see Figures 1, 1A and 2 and col. 2, line 58 – col. 3, line 42). Watanabe discloses in Figure 1 an induction heating system having a power source, a fluid cooling unit, an induction heating device (100C, 101C, 102C), a system controller, a flow switch (500) wherein the controller controls operation of the power source and the cooling unit to prevent heat damage to stop power to the induction heating device when the cooling flow through the flow switch is below the set desired flow rate (see the English translation sections [0010] – [0018]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Dion to provide a flow switch to monitor the flow rate of the cooling fluid to maintain sufficient cooling fluid to the induction heating device and to control the power supply to prevent overheating of the heating system, in view of the teaching of Watanabe.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pfaffmann et al (US 4,675,057) is further cited to show an induction heating device with cooling control.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (703) 308-1710. The examiner can normally be reached on flexible.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (703) 308-2634. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Philip H Leung  
Primary Examiner  
Art Unit 3742

P.Leung/pl  
12/11/03